UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,923	03/21/2006	Masanori Masuda	DK-US065034	7025

22919 7590 11/06/2008

GLOBAL IP COUNSELORS, LLP
1233 20TH STREET, NW, SUITE 700
WASHINGTON, DC 20036-2680

EXAMINER	
TRIEU, THERESA	

ART UNIT	PAPER NUMBER
3748	

MAIL DATE	DELIVERY MODE
11/06/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/572,923	MASUDA, MASANORI	
	Examiner	Art Unit	
	Theresa Trieu	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/22/2008 & 08/14/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is responsive to the applicants' amendment filed on Aug. 22, 2008.

Claims 1 and 3 have been amended. Accordingly, claims 1-5 are pending in this application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '001 (Publication Number JP 61-73001) in view of Iwai (Publication Number JP 59-041602).

Regarding claim 1, as shown in Figs. 1-5, JP '001 discloses a rotary fluid device comprising a rotation mechanism including a cylinder 2, 6a having an annular cylinder chamber , and an annular piston 3 disposed in the cylinder chamber to be eccentric relative to the cylinder, the annular piston 3 dividing the cylinder chamber into an outer working chamber 17, 20 and an

inner working chamber 19, 23; and a blade 7 disposed in the cylinder chamber to divide each of the inner and outer working chambers into a high-pressure space and a low-pressure space, the cylinder and the piston being relatively movable by rotation of a driving shaft, wherein one of the inner and outer working chambers 17, 20; 19, 23 being a compression chamber which compresses and discharges fluid with a progression of a relative movement between the of the cylinder and the piston 3, the compression chamber being in fluid communication with a suction pipe 8-1 arranged to supply the compression chamber with fluid and a discharge pipe 9-1 arranged to receive compressed fluid from the compression chamber, and the other of the inner and outer working chambers which expands and discharges a sucked fluid with a progression of a relative movement between the cylinder 6a and the piston 3, the chamber being in fluid communication with an inlet pipe 8-2 arranged to supply the chamber with fluid and an outlet pipe 9-2 arranged to discharge fluid from the chamber. However, JP '001 fails to disclose the inner or outer working chamber being expansion chamber.

Regarding claims 1-3, Iwai teaches that it is conventional in the art to utilize the outer working chamber being the compression chamber (A) being formed at an outer side of the cylinder chamber and the inner working chamber being expansion chamber (B) being formed at an inner side of the cylinder chamber (see abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the inner and outer working chambers being formed compression and expansion chambers, as taught by Iwai in the JP '001 apparatus, since the use thereof would have obtained a rotary machine of small size and high performance.

Regarding claims 2-4, JP '001 further discloses a suction mechanism which allows the refrigerant to be introduced into the chamber a in a predetermined rotation angle range of the piston such that an expansion process of the fluid in the expansion chamber occurs in a predetermined range within one rotation cycle of the piston relative to the cylinder 6a; the compression chamber 17, 20 being a working chamber formed at an outer side of the cylinder chamber, a drive mechanism 14, 15 for driving the rotation mechanism, with a rotation speed of the drive mechanism being variably controlled; the piston 3 being C-shaped to form a gap, the blade 7 extends between an inner peripheral wall surface and an outer peripheral wall surface of the cylinder chamber through the gap of the piston 3.

2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP '001 in view of Iwai as applied to claim 1 above, and further in view of Nakano (Publication Number WO 02/088529).

The modified JP '001 device discloses the invention as recited above; however, the modified JP '001 fails to disclose a swing bushing being in contact with the piston and the blade.

As shown in Fig. 19, Nakano teaches that it is conventional in the art to utilize the gap has a swing bushing 2A therein, the swing bushing being in contact with the piston 2 and the blade 3 such that the blade is reciprocatable and the blade is swingable relative to the piston. It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the swing bushing, as taught by Nakano in the modified JP '001 apparatus, since the use thereof would have improved the performance and reliability of the swing piston type device.

Prior Art

3. The IDS (PTO-1449) filed on Aug. 22, 2008 and Aug. 14, 2008 has been considered. An initialized copy is attached hereto.

Response to Arguments

4. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 571-272-4868. The examiner can normally be reached on Monday-Friday 8:30am- 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TT

/Theresa Trieu/
Primary Examiner, Art Unit 3748